Notice of Staff Workshop on Energy Storage Research Needs for California

California Energy Commission staff will conduct a workshop to solicit input from stakeholders to help the Energy Commission's Research and Development Division better identify future research needs related to increasing energy storage in California and what future research areas would be the most effective in advancing energy storage technologies closer to successful commercial implementation. This workshop will be held during the Energy Storage North America (ESNA) Conference and Exhibition being held at the Pasadena Convention Center, November 6-8, 2018. The workshop will be:

November 6, 2018
9:00 AM – 12:00 PM
Pasadena Convention Center, Room 211
300 East Green Street
Pasadena, California
(Wheelchair Accessible)

Background

California has set aggressive goals for achieving a low carbon future. Recent legislation Senate Bill 100 (de León, Chapter 312, Statutes of 2018) requires 100 percent of electricity come from renewable energy resources and zero-carbon resources by 2045. Energy storage will play a significant role in helping the state meet these new goals. The state has established energy storage goals under Assembly Bill 2514 (Skinner, Chapter 469, Statutes of 2010) and AB 2868 (Gatto, Chapter 681, Statutes of 2016) for the California Investor Owned Utilities (IOUs) to procure up to 1,825 megawatts of energy storage by 2020. Currently, there are a limited number of energy storage options for either in front of or behind the meter applications, and it is not expected that these systems can scale to the production level or price range necessary to help California meet its goals.

New, more capable energy storage technologies or improvements to existing technologies are needed to address these growing utility grid and transportation system needs. Additionally, as technologies approach commercialization, manufacturers may need independent testing to demonstrate performance in targeted applications to obtain the necessary financing for commercial deployment. The California Public Utilities Commission established the purposes and governance for the Electric Program Investment Charge (EPIC) in Decision 12-05-037 for Rulemaking 11-10-003 on May 24, 2012. In this decision, the CPUC designated the Energy Commission as one of four administrators of the program and required administrators to submit coordinated investment plans to the CPUC for consideration no later than November 1, 2012 for

funding collected in 2012-2014 and set subsequent dates for the second and third triennial investment plans. The other designated administrators are Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company. The portion of the EPIC program administered by the Energy Commission provides funding for applied research and development, technology demonstration and deployment, and market facilitation for clean energy technologies and approaches for the benefit of ratepayers of Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company through a competitive grant solicitation process. Projects must address strategic objectives and funding initiatives as detailed in the appropriate EPIC Investment Plan. The EPIC program is currently the Energy Commission's Third Triennial EPIC Investment Plan. A copy of this plan can be reviewed at: https://efiling.energy.ca.gov/getdocument.aspx?tn=217347.

The EPIC program is approved to receive approximately $130 million annually to execute the Third Triennial EPIC Investment Plan. Historically, the EPIC program invests ten to twenty percent of the available funding on energy storage-related research. This workshop will review the planned energy storage-related research defined in the Energy Commission's approved Third Triennial EPIC Investment Plan.

ESNA is the largest conference, exhibition and networking event covering all applications of grid storage in North America. ESNA is organized and managed by Strategen Consulting and Messe Dusseldorf North America, and is part of the larger World of Energy Storage events happening in Europe, India, China and Japan. ESNA connects utilities, developers, energy users, policy makers and other key stakeholders from around the world to advance the understanding and deployment of energy storage, and to ultimately build a cleaner, more affordable and more resilient grid. The Energy Commission's Research and Development Division is holding this workshop in the same facilities as ESNA to engage the large, diverse number of energy storage event attendees so they can learn about the EPIC program and consider participating in future open solicitations in the energy storage technical area offered by the EPIC program.

While there is a fee to attend all the events sponsored by ESNA, there is no fee to attend this Energy Commission Workshop; however, seating space is limited so to ensure space is available to attend this workshop, attendees are recommended to register through the ESNA website at https://esnaexpo.com/.

Workshop Scope

This workshop will provide an opportunity for the Energy Commission's Energy Research and Development Division to meet with early stage and commercial energy storage developers, researchers, utilities, and end users to discuss challenges in the market. The Commission will seek input on a variety of potential research topics, including opportunities to support development of emerging technologies for particular use cases, needs and opportunities for performance field demonstrations of emerging and near-commercial energy storage technologies for specific use cases, and the need for planning tools or models to ensure effective and efficient deployment across the state. The information may help identify research priorities for future grant funding

opportunities as defined in the Energy Commission's 2018-2020 Triennial Electric Program Investment Charge Investment Plan.

As part of this workshop, the Commission staff will provide background information on the EPIC program and review some of the past research activities on energy storage funded by the EPIC program. The staff may invite a few past recipients to discuss their experiences working on Energy Commission grant funding opportunities.

Questions

Energy Commission staff is seeking input on the following:

1. For emerging storage technologies, what research support would most bring your technology to commercial viability and which end-use applications are you targeting? What new research grant opportunities would be the most beneficial in supporting these commercial advancements?

2. For pre-commercial or near-commercial energy storage technologies, what types of demonstration projects would be most useful to inform the finance industry and end users to consider energy storage procurements in the future. Which end-use applications are considered the most beneficial for your energy storage technology? What scale of demonstration project is considered the most valuable to end customers, utilities and project financiers in terms of size and overall cost/value?

3. For all technologies, what other research activities for emerging energy storage technologies would provide the most benefit to the state in meeting the defined future clean energy goals?

4. Are there existing planning tools or models that could be expanded or new tools or models that would assist the state in deploying energy storage throughout the state most efficiently and effectively? Are there existing models that can be used to help define the optimum location, size and time duration for energy storage that will help the state meet future SB100 renewable integration and resulting grid management goals?

5. Is there a need for a state-supported independent energy storage testing facility that would accelerate the commercial acceptance of new and emerging energy storage technologies? If so, what level of testing would be needed in terms of system size, rating and duration?

Public Comment

Oral comments. Staff will accept oral comments during the workshop. Comments may be limited to three minutes per speaker. Any comments may become part of the public record in this proceeding.

Written comments. Written comments should be submitted by 5:00 p.m. on November 30, 2018. Note: the maximum file size for attachments is 10 MB. Written comments will be also accepted at the workshop, however, staff may not have time to review them before the conclusion of the meeting.

Please note that your written and oral comments, attachments, and associated contact information (e.g. your address, phone number, email address, etc.) become part of the viewable public record. This information may become available via Google, Yahoo, and any other search engines.

Written comments may be submitted by emailing them (include workshop name in the subsect line) to Mike Gravely, Mike.Gravely@energy.ca.gov. If you prefer, you may send a paper copy of your comments to:

California Energy Commission
Attn: Michael Gravely
1516 Ninth Street, MS 43
Sacramento, CA 95814-5512

Public Adviser and Other Commission Contacts

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission proceedings. If you want information on how to participate in this workshop, please contact the Public Adviser, Alana Mathews, at PublicAdviser@energy.ca.gov or (916) 654-4489, or toll free at (800) 822-6228.

If you have a disability and require assistance to participate, please contact Yolanda Rushin at yolanda.rushin@energy.ca.gov or (916) 654-4310 at least five days in advance.

Media inquiries should be sent to the Media and Public Communications Office at mediaoffice@energy.ca.gov or (916) 654-4989.

If you have questions on the subject matter of this meeting, please contact Mike Gravely at Mike.Gravely@energy.ca.gov or (916) 327-1370.

Remote Attendance

Remote attendance will not be available for this workshop; however, the Energy Commission will have more workshops on this topic in the near future that will provide remote access capabilities.

Availability of Documents

Documents and presentations for this meeting will be available online at http://www.energy.ca.gov/research/notices/.

October 25, 2018

Laurie ten Hope
Deputy Director

Mail Lists:
EPIC listserv
Research listserv